

REMARKS

Claims 40-52 were presented for examination. In an Office action dated February 13, 2009, claims 40-52 were rejected. Claim 40 is amended herein to more distinctly claim Applicants' invention. Claims 76-82 have been added herein. Support for new claims can be found, for example, in Figures 7A-7C and the associated description in the specification. Specifically, support for claim 76 can be found, for example, on p. 20, ln. 11-15. Support for claim 77 can be found, for example, in Figures 7A-7C and p. 20, ln. 8-10. Support for claim 78 can be found, for example, in Figures 7A, 7B, 8A, 8B and p. 22, bottom line. Support for claim 79 can be found, for example, in Figures 7A-7C. Support for claim 80 can be found, for example, in Figures 7B and 7C. Support for claim 81 can be found, for example, on p. 25, ln. 5-6. Support for claim 82 can be found, for example, in 9B, 9C, and p. 27, ln. 4-20.

Applicants thank the Examiner for examination of the claims pending in this application and address the Examiner's comments below. Based on the above Amendment and following Remarks, Applicants respectfully request that the Examiner reconsider all outstanding rejections and objections and withdraw them.

Substance of the Interview

Applicants thank the Examiner and his Primary for their time in conducting a telephone interview on May 20, 2009. During the telephone interview, Applicants' attorney and the Examiners discussed the objection to the abstract and the rejection under 35 U.S.C. 112, first paragraph. The Examiners agreed that no new abstract was necessary. With regard to the rejection under 35 U.S.C. 112, first paragraph, the Examiners suggested amending the claims to more particularly recite the compressible nature of the flexible member that allows

it to conform to the internal shape of channels. The Examiners agreed that the Applicants proposed language appears to overcome the rejection.

Response to Objection to Specification

The Examiner objected the specification for failure of the abstract to commence on a separate sheet. The Examiners agreed during the interview, as discussed above, that no new abstract was necessary according to MPEP 1893.03(e).

Response to Rejection Under 35 USC § 112, Paragraph 1

The Examiner rejected claims 40-52 under 35 USC § 112, ¶ 1 as allegedly lacking written description. The Examiners indicated during the interview that Applicants' proposed language appears to overcome the rejection.

Applicants have amended claim 40 herein to more distinctly claim the invention. As recited in amended claim 40, the flexible member has a "longitudinal axis and an initial cross-sectional area in a plane perpendicular to the longitudinal axis at each point along the longitudinal axis," and that the member is "resiliently compressible in cross-sectional area such that, when inserted into a channel of cross-sectional area less than the initial cross-sectional area, the flexible member conforms to an internal shape of the channel." Support for these features of the claimed invention can be found, for example, in Figures 8A and 8B, and p. 10, lines 11-16, p. 11, ln. 4-14, and p. 19, 16-20.

Response to Rejection Under 35 USC 102(b)

The Examiner rejected claims 40, and 43-44 under 35 USC § 102(b) as allegedly being anticipated by U.S. Patent No. 5,897,316 to Buchanan et al. ("Buchanan"). This rejection is traversed.

As amended, claim 40 recites a flexible member being “resiliently compressible in cross-sectional area.” This feature of the claimed invention allows the instrument to adapt itself to the cross-sectional shape of the walls of the canal along the length of the instrument. See p. 11, ln. 4-12.

Buchanan does not teach or suggest at least the feature of a flexible member being “resiliently compressible in cross-sectional area” of claim 40. All embodiments disclosed in Buchanan are instruments having fixed diameters in planes that are orthogonal to the longitudinal axis of the instrument at any distance along its length. Sets of each of the embodiments of the instruments are provided to conform to root canals of different shapes and diameters. In Buchanan, the instrument selected must be replaced with a different one as the work progresses and the shape and/or dimensions of the root canal change. Moreover, the figures and description of Buchanan relate only to the flexibility of the shaft in the longitudinal direction. Figures 16A to 16F illustrate an embodiment in which a shape memory material is used to make the last third of the shaft of the instrument into a hook having a pre-determined curvature to “make it easier to direct the file down into the apical region of the root canal” [col. 17, lines 12 and 13]. The description regarding this embodiment as well as the fact that Buchanan continues at the same location to describe that this embodiment is supplied in sets having different curvatures raises questions about the degree of flexibility of Buchanan’s instruments in the longitudinal direction. Buchanan does not teach or suggest a flexible member being “resiliently compressible in cross-sectional area” as recited in claim 40. Therefore, for at least these reasons, the rejection of claim 40 and dependent claims 43 and 44 under 35 USC § 102(b) based on Buchanan is improper and should be withdrawn.

Response to Rejections Under 35 USC 103(a)

The Examiner rejected claims 42, 44, and 48-52 under 35 USC § 103(a) as allegedly being unpatentable in view of Buchanan and U.S. Patent No. 4,019,254 to Malmin et al. (“Malmin”). This rejection is traversed.

As explained above, Buchanan does not teach at least the feature of a flexible member being “resiliently compressible in cross-sectional area” recited in claim 40. Malmin does not remedy the deficiencies of Buchanan. Malmin discloses an endodontic operating instrument, but does not disclose that the instrument is “resiliently compressible in cross-sectional area” as recited in claim 40, from which claims 42, 44, and 48-52 depend.

Additionally, with respect to claim 42, the Examiner contends that “Malmin teaches an instrument having a plurality of radially dispersed elements, a cutting edge being disposed on the distal ends of the radially disposed elements and a longitudinal element connected to the plurality of circumferential elements.” To the contrary, a thorough reading of Malmin reveals that all embodiments taught by Malmin comprise a single elongated shank that must have a rounded distal end and is attached to a handle at the proximal end. The shaft is shaped such that in many of the embodiments there are pluralities of blade edges that are parallel to each other running along the length of the shank. The cross-sections of the shank and cutting edges are constant from the handle to the distal end. Abrasive material can be applied in various patterns to the cutting edges and must be applied to the shank in embodiments of the instrument wherein shank has a circular cross-section. However, Malmin does not disclose or suggest “a plurality of radially disposed elements, a cutting edge being disposed on the distal ends of the radially disposed elements” as recited in claim 42.

Applicants respectfully submit that for at least these reasons, claims 42, 44, and 48-52, are patentably distinguishable over Buchanan and Malmin, both alone and in combination. Therefore, Applicants respectfully request that the Examiner reconsider the rejection, and withdraw it.

The Examiner rejected claims 45-47 under 35 USC § 103(a) as allegedly being unpatentable in view of Buchanan and Malmin as applied to claim 44 and further in view of U.S. Patent Application No. 2003/0211442 to Abel (“Abel”). This rejection is traversed.

As explained above, the combination of the teachings of Buchanan and Malmin do not teach all of the features of claim 40, and therefore of claim 44, which depends from claim 40. Abel does not remedy the deficiencies of the combination of Buchanan and Malmin. Namely, Abel does not disclose or suggest at least the feature of “a flexible member being “resiliently compressible in cross-sectional area” recited in claim 40. Applicants respectfully submit that for at least these reasons, claims 45-47, which depend from claim 40 are patentable over the combination of Buchanan, Malmin, and Abel.

Additionally, the Examiner argues that “Buchanan/Malmin ... further discloses that the member exhibits lattice structure, except for a member having a hollow interior wall portion of the instrument.” To the contrary, both Buchanan and Malmin teach instruments that comprise a solid shaft/shank. A lattice is a frame comprised of crossed wood or metal strips with open spaces between the strips. It is not seen how the instruments of Buchanan and Malmin can be combined to result in an open lattice structure. Abel teaches an embodiment of an endodontic instrument made of a hollow tube [Par. 0048 and Figs 6A-D]. The hollow tube has “small burr-like cutting edges 30 ... formed on the rod” [par. 0043].

From the description and Figs 6A-D it is clear that Abel does not teach the feature of an open lattice structure.

Applicants respectfully submit for at least these reasons that claims 45-47 are patentably distinguishable over the cited references, both along and in any combination. Therefore, Applicants respectfully request that the Examiner reconsider the rejection, and withdraw it.

Allowable Subject Matter

The Examiner made no prior art rejection of claim 41 in the Office Action dated February 13, 2009. Applicants assume that this claim would be allowable if rewritten in independent form. Since, in view of the amendments and discussion of the prior art above Applicants content that claim 40 is now allowable, Applicants submit that claim 41 is also allowable in its present form.

New Claims

Claims 76-82 have been added. Applicants submit that claims 76-81 are also patentable over the prior art of record.

Claims 76-82 depend from claim 40. As amended, claim 40 now recites the feature of a flexible member being “resiliently compressible in cross-sectional area” Applicants have explained above that none of the cited references, either alone or in any combination disclose or suggest this feature, recited by claim 40. Therefore, for at least these reasons, Applicants submit that all claims that depend from claim 40, including new claims 76-82, are patentable over the prior art of record by reason of their dependency on claim 40, in addition to the further patentable limitations recited therein.

Conclusion

In sum, Applicants respectfully submit that all claims now pending are patentable over the cited references for at least the reasons given above, while not necessarily conceding any contention not specifically addressed. Applicants request reconsideration of the basis for the rejections of these claims and request allowance of them.

If the Examiner believes that for any reason direct contact with Applicants' attorney would help advance the prosecution of this case, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully Submitted,
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Date: June 12, 2009

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